

**Notice of Allowability**

Application No.

09/922,168

Examiner

Brian T. Pendleton

Applicant(s)

BRUNGART, DOUGLAS S.

Art Unit

2644

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to new application on 8/6/2001.
2. ☒ The allowed claim(s) is/are 1-20.
3. ☒ The drawings filed on 28 September 2001 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All   b) ☐ Some\*   c) ☐ None   of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date 8/6/01
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_.
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

**DETAILED ACTION*****Allowable Subject Matter***

Claims 1-20 are allowed.

The following is an examiner's statement of reasons for allowance: The prior art of record does not disclose a vocal effort processor for determining an appropriate pre-recorded speech signal for a specific application from a memory device storing a plurality of pre-recorded speech signals based on a desired distance input and a desired listening level input (first and second external inputs respectively), scaling the appropriate pre-recorded speech signal according to the desired listening level and performing head related transfer function processing on the scaled signal, as claimed in claims 1 and 11. Courneau et al, US Patent 5,987,142 discloses a system of sound spatialization for a plurality of sound sources comprising device 12 for the spatial management of the sound sources. Spatial orientation device 13 uses the position of a pilot's head, the orientation of the aircraft and the location of the source to control processors 8 to generate the sound from where the source should seem to come from (see figure 3). While the processors 8 accomplish head related transfer functioning, the reference does not disclose nor suggest the use of determining an appropriate speech signal based on a desired distance and listening level. Mukojima, US Patent Publication 2001/0040968 discloses a method of positioning sound image with distance adjustment. The apparatus which performs the method comprises input 10, monophonic sound source SI from feeder 12, CPU 9, HRTF database 5, filters 3, 4, and amplifiers 6, 7. Circuit element 10 inputs positional information such as azimuth angle, elevation angle and distance. Mukojima therefore discloses a desired distance input but does not disclose using a desired listening level and selecting a speech signal (or sound signal)

Art Unit: 2644

based on the two desired parameters. Myers, US Patent 4,817,149, is directed to three-dimensional auditory display but uses amplitude scaling to simulate the distance of a virtual sound source and does not take into account the desired listening level. Finally, Tucker et al, US Patent 5,742,689 discloses a method and device for processing a multi-channel signal for use with a headphone comprising a plurality of HRTF processors 10-14 and multipliers 16-25 which are used to reflect the signal attenuation as a function of the distance between a virtual sound source and the listener's ear. However, Tucker makes no mention of using a desired listening level and scaling a selected speech signal based on that level. As a result, claims 1 and 11 and their dependents are allowed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian T. Pendleton whose telephone number is (703) 305-9509. The examiner can normally be reached on M-F 7-4:30.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Forester W. Isen can be reached on (703) 305-4386. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2644

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Brian T. Pendleton  
Examiner  
Art Unit 2644



XU MEI  
PRIMARY EXAMINER